

# COVID Second Wave in India – Revisiting the TIP Approach

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## Abstract

The resurgence of COVID as a second wave of rising cases has been seen in many parts of India. Presentation with atypical non-specific symptoms, delay in test positivity and diagnosis, infections more among younger people, and a fast-paced growth in daily cases have been the trends so far. Variant strains are also emerging as a cause for concern. The importance of TIP – Testing, Isolation and Prevention still hold as the three corner-stones of management. This can enable effective home isolation and treatment, identifying high risk cases for hospitalization, and prevent overburdening of healthcare resources. The two major pillars of prevention are wearing of masks in public, and further ramping up vaccination to include younger age-groups as well.

**Keywords** – COVID second wave, resurge, home isolation, masks, variants

## Introduction

After an entire pandemic year (2020) of efforts to control COVID (Coronavirus Disease), and also successfully manufacturing and initiating vaccination in 2021, it has been most unfortunate to see a second and more aggressive COVID wave in India. The resurge of COVID cases seen prominently from February-March 2021 has gripped the state of Maharashtra, with others like Delhi, Punjab, Kerala, Karnataka, Tamil Nadu, Gujarat, Uttar Pradesh, Uttarakhand, Madhya Pradesh, and Chhattisgarh showing rising and worrying numbers. With the daily COVID cases having already crossed 2 lakhs in India, there are some new trends seen in the 2<sup>nd</sup> COVID wave.

The last seen daily cases peak was in mid-September 2020 (97,000 cases) that took 108 days to reach from 8000 cases in the beginning of June 2020. However, in 2021 it took 63 days from 8000 cases in the beginning of February to cross 1 lakh as of 5<sup>th</sup> April 2021, indicating an almost double paced rise of cases in the 2<sup>nd</sup> wave.<sup>[1]</sup> This could be attributed to a sudden increase in the physical interaction of people who were earlier not exposed much. The younger non-vaccinated age-group has seen to be predominantly infected with almost 70% cases below 60 years of age, and almost 50% cases below 40 years of age.<sup>[2]</sup> Workplaces, offices, eating joints and public transport had started functioning at full strength with few able to follow proper wearing of masks and social distancing norms sincerely. Closed, indoor air-con-

ditioned, unventilated spaces where many people mingle closely from different parts of the city were possible high-risk areas for the spread of infections.

The mortality rate fortunately has not surged and is below 1.5%, with several people showing asymptomatic infections (incidentally diagnosed during flying, contact tracing and suspicion) or mild-moderate symptoms.<sup>[1]</sup> But overwhelming of healthcare resources and facilities has pushed the administration to impose stricter curbs. Though the younger population may be predominantly catching the infection, they can transmit to the elderly at home who are still vulnerable due to none or single vaccine dose received, and often require hospital care due to increased age, associated comorbidities and higher COVID complications and mortality risk.

New mutations and variants have been seen, especially B.1.617 from Maharashtra (E484Q and L452R double mutations), and B.1.36 from southern states (N440K mutation), in addition to the 3 global variants of concerns (VOCs) also isolated in various parts of the country (B.1.1.7 from the UK- N501Y mutation; B.1.351 from South Africa- E484K and N501Y mutation; and P.1 from Brazil- K417T, E484K, N501Y mutation).<sup>[3]</sup> The variants have been studied to be possibly more infectious but not necessarily more severe or deadly, constituting up to about 20% of the cases overall, and higher in places like Maharashtra and Punjab. The relative significance of these variants as the cause of the resurge is still to be determined. However, these may show immune escape, thus contributing to repeat infections.

In the scenario of this 2<sup>nd</sup> wave, it is worthwhile revisiting the TIP (Testing, Isolation, Prevention) approach

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outlined in this journal's editorial in April 2020. [4]

## TIP (Testing, Isolation, Prevention)

### Testing

With rising cases, it has become imperative to test all people with possible symptoms of COVID. People getting infected in the 2<sup>nd</sup> wave are sometimes not showing typical COVID symptoms like fever, sore throat and cough, and can have atypical and non-specific symptoms like persistent headache, general body ache, tiredness and weakness, or digestive complaints like nausea-vomiting, indigestion, abdominal pain and diarrhea. Loss of smell and/or taste are very useful and suggestive signs. [5] Therefore, people with such symptoms especially with possible recent exposure to a COVID case, and improper precautions taken in public places, should get tested for COVID.

The RT-PCR (reverse transcription polymerase chain reaction) has been considered the gold standard test for diagnosing COVID, and this also gives the cycle threshold (Ct) to determine viral load and transmissibility. Rapid antigen tests (RATs) are being used for screening at high risk, crowded and cluster areas. India has shown a test positivity rate (TPR) of 6% in the 2<sup>nd</sup> wave as compared to 12.7% during the peak in 2020. [1] However, TPR of more than 10% has been seen in some states and cities, and is also showing increasing trends. Lower test positives with rising cases implies wider and more extensive testing. The WHO had initially recommended a TPR range of 3-12% with a recent consensus that it should remain at 5% or lower for 14 days before regions reopen. [6]

It has been seen that the RT-PCR can be negative initially in some cases even when symptoms are present, and can become positive some days later when repeated. [7] Due to this, as well as the fact that the report takes almost 36 hours to come because of high testing load, a delay in the diagnosis of significant lung involvement can worsen the person's condition. Therefore, if symptoms are present, oxygen saturation check by 4 hourly pulse oximetry should be done to ensure a value of 95% and above. [8] Oxygen saturation by pulse oximetry is the most valuable and practical test for COVID management, monitoring, and hospitalization decision. A high-resolution CT scan (HR-CT) chest is useful to pick up the infection early, establish severity of lung involvement, and help in timely initiation of treatment, and hospitalization where needed. [9] Blood inflammatory markers like CRP, D-dimer, IL-6 and others like ferritin, LDH, and cardiac troponin I, can also help in identifying people with higher risk for complications, and poorer prognosis. [10] The presence of comorbidities should always prompt for greater caution and alertness towards early hospital care.

Random sampling for gene sequencing is advocated to determine presence of VOCs in areas of rapid spread and high case-loads. [3]

### Isolation

Most cases can be treated by home isolation and care, and this should be encouraged to prevent overwhelming of healthcare facilities and resources. It is important that a separate room and toilet is available for home isolation, or else shifting to COVID-healthcare centers (self-care/basic care repurposed stay centers) for effective isolation and care may be considered. Professional tiffin supply services are available to help especially those staying alone. Pulse oximetry for oxygen saturation (SpO<sub>2</sub>) should be done every 4 hours, and can be combined with the 6-minute walk test (performed at normal walking pace), at least once daily. [8] A drop in SpO<sub>2</sub> by 3% or <94% after the test should be considered an alarm sign.

Constant touch with the treating doctor and family members over video/audio calls help most people recover well with home isolation, care and treatment. Completing the isolation period of 2 weeks should be emphasized and followed even for asymptomatic or mildly symptomatic COVID positive people, and they should avoid mingling in public in a few days itself when their symptoms are gone, or they feel fit and recovered. [11] This is the time they can experience sudden worsening and also infect several others. It is also important for symptomatic and suspected asymptomatic people to isolate themselves while awaiting test results till the investigations rule out COVID.

Hospitalization should be considered if the person has breathlessness and/or oxygen saturation <95%, associated comorbidities (diabetes, illness of heart, lung, kidney, liver, cancer or post-surgery/transplant), severe HR-CT chest scores, high level of inflammatory markers like CRP/D-dimer, not showing improvement of fever, body pain and other major symptoms in the first 24-48 hours of home care, feeling very sick or weak, not able to eat or take medicines orally, or not having proper isolation facilities/care at home. [12]

### Prevention

Unlike the 1<sup>st</sup> wave, we are equipped with vaccination during the 2<sup>nd</sup> wave. As of 15<sup>th</sup> April 2021, India has vaccinated more than 1 crore health and frontline workers with both doses of the vaccine, and around 8 crore people aged 45 years and above with the first vaccine dose. [13] However, there is an urgent need to ramp up vaccination extensively and extend it to the younger populations especially in the 20-45 age group who are getting increasingly affected in the 2<sup>nd</sup> wave. It has been seen that though those vaccinated can get infected, hospital-

izations, complications and mortality are minimized reducing the healthcare burden considerably. Vaccine hesitancy has to be continually fought with scientific reasoning, clinical data and spreading awareness.

Wearing of masks continues to be our main mode of prevention. Fatigue and impatience have taken its toll, and therefore stricter regulation and penalization become necessary. However, there is enough scientific evidence to show that countries and areas where people followed wearing of masks sincerely, showed lower levels of COVID-spread. [14] Wearing masks and social distancing in public need to be repeatedly emphasized by leaders at work-place, administrators, influencers as well as by each and every person, and this is the most important way of containing COVID spread in the community. [15]

Self-regulation and responsibility are the need of the hour for each person. Avoiding crowding, large social gatherings and non-essential travel by public transport, maintaining social distancing at work and public places, and using digital platforms as much as possible are advocated. Drastic restrictions affecting people's livelihood and daily quality of life, and inconveniencing the elderly and weaker sections, are not sustainable or desirable, but are resorted to in the absence of social responsibility and overburdening of the healthcare system.

## Conclusion

COVID has resurged in India showing a rapid rise in cases in many states with Maharashtra being at the forefront. Younger populations with a large proportion showing asymptomatic or mild-moderate infections are being seen. Atypical and non-specific symptoms, initial negative result on testing, and delay in isolation and medical care increase both transmission as well as load on hospitals and healthcare resources. Apart from RT-PCR, chest HR-CT and blood inflammatory markers can aid in early decision making. Though most cases recover well with home isolation and treatment, identifying and monitoring oxygen saturation, risk factors and red flag signs should be meticulous to facilitate timely hospitalization. Following proper isolation norms responsibly is also pertinent. Wearing of masks in public, along with social distancing and COVID appropriate behaviour remains the key. Vaccination needs intense ramping up and inclusion of the younger population at the earliest.

*Disclaimer: Information is dated 15<sup>th</sup> April 2021*

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